

*A case study on the role of project-based learning
in improving university students' speaking skills:
From theory to practice*

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Abstract

The aims of this paper are twofold: (1) to study the application of project-based learning ten-step process framework suggested by Alan and Stoller (2005) to boost English speaking ability of undergraduate students at the University of Da Nang, and (2) to investigate the levels of undergraduate students' satisfaction. The subjects were 24 final year undergraduate engineering students at the university of Da Nang during the first semester of the 2019/2020 academic year. The instruments used in this experiment included lesson plans, a project evaluation form, a student's self-assessment form, a satisfaction questionnaire and interviews.

Keywords: project-based learning; English speaking skills; self-assessment

1. Introduction

Project-based learning (PBL) has emerged, thrived and drawn the attention of teachers, educators and scholars in second language education. It is widely considered as

a shift from teacher-centeredness to student-centeredness. The purpose of PBL is to boost students' abilities for life-long learning through contextualizing learning by presenting them with problems to solve and/or artifacts to create. PBL has been investigated in a great number of studies on a global scale over the last decade, but the application of this approach to teaching English as a foreign language in Vietnam is still not popular (Nguyen, 2011). PBL can be applied in a wide range of English teaching and other fields at schools, colleges and universities. Within the scope of this study, the paper focuses on English learning speaking projects. In other words, the study directs at teaching and learning English speaking skills. PBL is adapted to English speaking learning because it has its own advantages. Skehan (1998) argues that PBL can enhance students' autonomy especially when they are actively engaged in project planning (e.g., choice of topic). Autonomous learning is promoted when the students become more responsible for their own learning. Fried-Booth (2002) states that the process leading to the end-product of project work provides opportunities for students to develop their confidence and independence. According to Levine (2004), learner language skills can be improved dramatically within PBL. The students engage in purposeful communication to complete authentic activities - tasks with real-world relevance and utility; they thus have the opportunity to use language in a relatively natural context and participate in meaningful activities which require authentic language use Stoller (2006).

2. Theoretical background

2.1. Definition of project-based learning

PBL is a student-driven, teacher-facilitated approach to learning. PBL can be traced back to Dewey's (1938) pioneer ideas, that is, Progressivism that opened a new era in American education based on an active education, which took into account the students' individualities, stimulating teachers' creativity and focusing on practice-based education. According to Dewey's Progressive education theory (1938), the educational process includes two aspects: a psychological and a sociological one. He considers the psychological aspect to be fundamental and very important. The learning capacity should start in childhood and continue in adult life. Dewey puts an emphasis on the children's needs – "learning by doing." He argues that the classroom should be a kind of society and the students should be encouraged to become the center in the learning process. The method promotes the student's intrinsic motivation and spontaneous interest. The student mobilizes his/her effort to negotiate the obstacles that may occur.

Hedge (1993) states that projects are extended tasks which usually integrate language skills through a number of activities. They involve a variety of features: the use of authentic English language materials, an emphasis on integrity and student-centered activities, the importance of students' participation and the use of different skills.

PBL is defined as "an instructional approach that contextualizes learning by presenting learners with problems to solve or products to develop" (Moss & Van Duzer, 1998, p. 2). Project work encourages creativity, critical thinking, collaboration, self-study, and other study skills. Katz and Chard (2000) state that PBL is a very effective approach that allows the students to express their opinions about the topics covering fields of interest, solve problems and answer questions in a creative way in the classroom and outside.

2.2. The process of project-based learning (PBL)

Different researchers suggest different approaches to designing and implementing projects into English teaching classrooms. Booth (1986) argues that a project actually covers three stages: beginning in the classroom, moving out into the world, and returning back to the classroom. Papandreou (1994) introduces a model which illustrates the process of project work in six steps:

- Step 1: Preparation:* in this period, the teacher introduces the topic to the students, and asks them to discuss and ask questions.
- Step 2: Planning:* in this period, the teacher and the students determine the mode for collecting and analyzing information, and different kinds of work are assigned.
- Step 3: Research:* in this part, the students work individually or in groups gathering information from different sources.
- Step 4: Conclusions:* the students draw conclusions based upon their analysis of the collected data.
- Step 5: Presentation:* the students are supposed to present their final product to the whole class.
- Step 6: Evaluation:* in this part, the teacher makes comments on the students' endeavor and efforts.

Papandreou adds a new step to the whole process, namely evaluation, which is apparently a new initiative to the traditional model advocated by Booth (1986). Alan and Stoller (2005) summarize the revised ten-step process in the following way:

- Step 1:* Students and instructor agree on a theme for the project.
- Step 2:* Students and instructor determine the final outcome.
- Step 3:* Students and instructor structure the project.
- Step 4:* Instructor prepares students for the language demands of information gathering.
- Step 5:* Students gather information.
- Step 6:* Instructor prepares students for the language demands of compiling and analyzing data.
- Step 7:* Students compile and analyze information.
- Step 8:* Instructor prepares students for the language demands of the culminating activity.
- Step 9:* Students present final product.
- Step 10:* Students evaluate the project.

In this revised framework, steps 4, 6 and 8 are newly designed to differentiate it from the traditional one. This study adopts Alan and Stoller's (2005) ten-step process to design the project because their revised model is more detailed and comprehensive to handle and manage, which may help the teachers and students in the real application of the project. Thus the students' language skills, creative thinking and content learning can be facilitated. The final objective of the project work can be achieved.

2.3. Benefits of project-based learning in teaching English as a foreign language

A review of numerous case-study reports (Alan & Stoller, 2005; Allen, 2004; Levine, 2004; Papandreou, 1994; Skehan, 1998) reveals six main benefits in second and foreign language settings and these benefits are as follows (see also Figure 1):

- (1) *Critical thinking:* PBL fosters critical thinking skills. These skills are very important, since they are life-long, transferable skills to settings outside the classroom (Allen, 2004).
- (2) *Communication skills:* A PBL project is designed to solve problems in group so participation in the projects enables their communication skills in the target language (Alan & Stoller, 2005).
- (3) *Collaboration:* PBL enhances collaboration among learners, between learners and the teacher, as well as between learners and other community members. Thus, PBL provides learners with opportunities to learn collaborative skills (Papandreou, 1994).
- (4) *Autonomy learning:* PBL can consolidate students' autonomy especially when they are actively engaged in project planning (e.g., choice of

- topic). Autonomous learning is promoted when the students become more responsible for their own learning (Skehan, 1998).
- (5) *Problem solving*: PBL helps to maximize student decision-making and problem solving as they would have to make many important decisions on their own throughout the project: from selecting from various options each team member has to the design, production, and presentation decisions (Alan & Stoller, 2005).
 - (6) *Language skills*: According to Levine (2004), learners' language skills can be improved. The learners engage in purposeful communication to complete authentic activities – tasks with real-world relevance and utility; they thus have the opportunity to use language in a relatively natural context and participate in meaningful activities which require authentic language use.

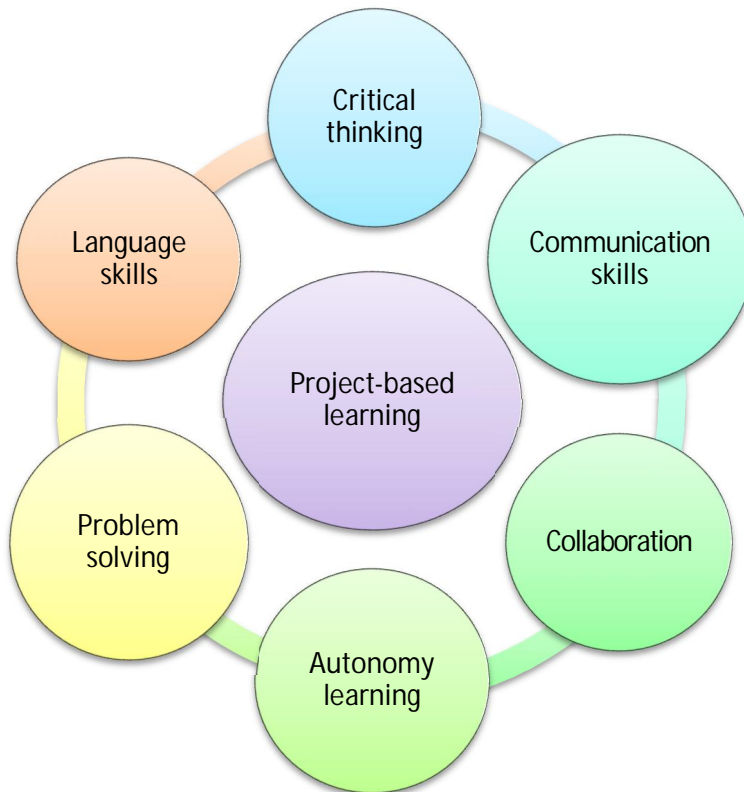


Figure 1 Benefits of PBL in second and foreign language settings (based on Alan & Stoller, 2005; Allen, 2004; Levine, 2004; Papandreou, 1994; Skehan, 1998)

3. Methodology

In this paper, qualitative and quantitative methods were adopted to study the application of PBL to designing a short intensive speaking course and to analyze students' satisfaction derived from this course, which was examined by means of a questionnaire.

3.1. Population and samples

The population includes final year students at the university of Da Nang in the 2019/2020 academic year. There were 721 students from all faculties. The samples consisted of 24 male students of class CD18-CO1 who completed the basic requirements of Speaking 1, 2, 3 and 4.

3.2. Data collection

This study has used a close-ended questionnaire and interviews to survey undergraduate mechanical engineering students' satisfaction with PBL. The questionnaire and interview were conducted at the end of the course. On average, it took the students ten minutes to have the interviews and fifteen minutes to complete the questionnaire. They were volunteers, and there was no compensation for taking part in the procedure.

3.3. Short-term intensive course description

This short intensive English speaking course was held during the final semester. It aimed at fostering undergraduate students' personal growth, improving their communication skills and problem solving skills as well as building up their confidence and teamwork ability before they entered internship programs. Within this short-term intensive English program, PBL assumed a central role. This 30 hours PBL course lasted for 6 weeks (see Table 1). The 24 students met every Tuesday and Friday for three hours at the beginning of March. The class was divided into three groups of 8 students and they spent 20 hours working in group to discuss their tasks. The remaining time was dedicated to teachers' instruction, feedback provision, panel discussions and oral presentation.

Table 1 The schedule of a 6-week intensive speaking course at the university of Da Nang

Week 1 and 2		Week 3 and 4		Week 5 and 6	
Project 1	Assessment and evaluation	Project 2	Assessment and evaluation	Project 3	Assessment and evaluation

4. Results and discussion

4.1. The application of Project-Based Learning to designing the short intensive speaking course

Based on the aims and objectives of the course, 3 projects were designed within the framework of the ten-step process offered by Alan and Stoller (2005) (see Table 2).

Table 2 Three PBL projects within the ten-step process framework offered by Stoller (2005)

Stoller's ten-step process	Project 1	Project 2	Project 3
Step 1: Students and instructor agree on a theme for the project.	Big brand name in automobile industry	Job interview	Future transport
Step 2: Students and instructor determine the final outcome.	Oral presentation	Oral interview videos	Idea-hunter contest
Step 3: Students and instructor structure the project.	Students have to figure out the history of well-known automobile manufacturers, such as: Mercedes Benz, Toyota, Honda, Nissan and others, their research and development department, design department, repair and maintenance department, their dealer network and current staff in Vietnam and in the world.	Students join the job interview and their teammates record it.	Students take part in the contest seeking ideas for future transport. They have to investigate challenges and opportunities in transport in Vietnam, create solutions and turn their ideas into a narrative format (videos or oral presentation with visual arts)
Step 4: Instructor prepares students for the language demands of information gathering.	Instructor recommends some informative related websites to the students to collect data. https://www.bizvibe.com/blog/top-10-automobile-companies-in-the-world/ https://en.wikipedia.org/wiki/Automotive_industry https://en.wikipedia.org/wiki/Mercedes-Benz https://www.mercedes-benz.com/en/ https://en.wikipedia.org/wiki/Toyota https://www.toyota.com/	Instructor provides students with some useful websites. https://www.inc.com/jeff-haden/27-most-common-job-interview-questions-and-answers.html https://www.the-balancecareers.com/top-job-interview-questions-and-answers-2061226 https://www.monster.co.uk/career-advice/article/what-are-the-most-common-job-interview-questions https://www.job-hunt.org/recruiters/smart-job-interview-answers.shtml	Instructor helps them get some innovative ideas on some suggested websites. https://www.youtube.com/watch?v=QQwnT1jqw8 https://www.foxnews.com/tech/five-future-transportation-technologies-that-will-actually-happen https://thefutureishere.economist.com/transportation/blogs-future-transportation.html https://www.metro-magazine.com/list/topic/future-transportation https://www.theguardian.com/technology/series/the-future-of-transportation
Step 5: Students gather information.	Students spend 2 days collecting information.	Students spend 2 days collecting information.	Students spend 3 days collecting information.
Step 6: Instructor prepares students for the language demands of compiling and analyzing the data.	Instructor helps students to write a company history by telling them to provide the opening time and location of the company, a brief profile of	Instructor discusses with students how to make a question and to answer it politely in a job interview and gives them	Instructor offers a suggested word list used in their narratives.

	the founders, major turning points in the company's life and amusing and inspirational events. It is important to ask students to add photos to illustrate the company's history.	some tips to prepare well for the job interview.	
Step 7: Students compile and analyze information.	Students work in groups, organize information and then discuss the value of the data that they have collected.	Students take part in role play involving the interview and act out. Their teammate records.	Students work in groups to brainstorm and come up with an innovative means of transport to enter the contest.
Step 8: Instructor prepares students for the language demands of the culminating activity.	The teacher designs language-improvement activities to help students successfully present the topic. The activities may focus on skills for successful oral presentations.	The teacher designs language-improvement activities to help students act out in the interview. The activities may focus on skills for job interview.	The teacher designs language-improvement activities to write narratives. The activities may focus on skills for narratives.
Step 9: Students present the final product.	The students prepare slides in PowerPoint and present their favorite or admired automobile company.	The students show their recorded interview videos in the class.	The students show their work with the oral presentation in the class.
Step 10: Students evaluate the project.	The students reflect on the language mastered and the subject matter acquired during the project. They are also asked to make recommendations that can be used to enhance similar projects in the future. The teachers provide students with feedback on their language and content learning.	Students watch videos and have some comments as well as some recommendations that can be used to improve the videos. The teachers provide students with feedback on their language and content learning.	Students and instructor listen; they make some questions and vote for the winner of the contest based on their language and ideas.

4.2. Students' satisfaction with Project-Based Learning short intensive speaking course, based on questionnaire and interview results

24 responses from the survey reveal some information regarding the undergraduate mechanical engineering students' satisfaction with PBL short intensive speaking course at the university of Da Nang. The result of their satisfaction with this course is illustrated in Table 3.

Table 3 The result of students' satisfaction with PBL intensive speaking course

No	My satisfaction with Project-based Learning in class CD18-CO1	Total students	%
1.	The PBL lectures were motivating and vivid.	15	60
2	PBL lectures can foster my autonomy in learning.	12	50
3	I can learn English with real-life situations.	20	83
4	My problem-solving and critical thinking have improved.	14	58
5	I was given chances to speak English and collaborate with my teammates.	21	87
6	I am satisfied with the role of instructor and her instruction.	14	58
7	The time allocated to Project-based Learning was appropriate.	8	33
8	There were sufficient necessary learning resources.	18	75

Question 1: Were the PBL lectures motivating and vivid?

The survey of the undergraduate mechanical engineering students revealed that most of them (60%) were satisfied with the PBL classes and recognized as effective compared to traditional instructor-led classes. The remaining students (40%) stated that they did not know the ideas and benefits of PBL course. The interviews with unsatisfied students showed that they were not keen on this speaking course in particular and English learning in general.

Question 2: Can PBL lectures foster your autonomy in learning?

Mapping the responses back to the satisfaction with autonomy in learning showed that PBL lectures can promote autonomy of half the number of students. They argued that they were fully aware of all the decisions with their learning, especially with English learning. The interview showed that PBL also helped them improve their positive attitudes toward learning English thanks to its ability to keep students engaged. They used to get bored and stressed with a tremendous number of grammar rules in traditional English learning classes. It is believed that the experience with PBL can consolidate their motivation and passion for learning English by themselves after they graduate and start their work.

Question 3: Can you learn English with real-life situations?

A close look at Table 3 reveals that there was a high degree of satisfaction (83%) in learning with real-life situations amongst the students. Most notably, PBL connects students to the real world and prepares them to accept and meet challenges in the real world.

Question 4: Have your problem-solving and critical thinking improved?

Problem-solving and critical thinking skills are fairly common with undergraduate students. These skills refer to the ability to use knowledge, facts, and data to effectively solve problems. However, in the interview they said that they had an insufficient level of critical thinking and problem-solving. Fortunately, 58% of students agreed that PBL can enhance and build up their decision-making and their critical thinking. The PBL requires a lot from the student cognitively in comparison to traditional teaching methods. They are compelled to constantly think, analyze and come up with the plans and solutions to the problem. It is very helpful for them in their future job because employers expect employees to work through problems on their own or as an effective member of a team.

Question 5: Were you given chances to speak English and collaborate with your teammates?

The interviews held with the students showed that despite some difficulties in expressing their ideas in English, they felt fairly free to speak English to exchange their ideas and suggestions in group without worrying about making grammar mistakes. It is noticed that they had a chance to get over the obstacles in speaking English to exchange information in daily life conversation. In the survey, 87% of students thought that they were encouraged to speak English with their teammates during the PBL lectures.

Question 6: Were you satisfied with the role of instructor and her instruction?

In the pre-project stage, the teacher or the instructor helped students select a theme, final outcome. In the during-project stage, the instructor took responsibility for supplying sources of information and ideas, drawing up schedules, providing input for language skills, responding to requests from students and making assessments. All of the instructions were in English and sometimes in Vietnamese. More than half of the students fully understood them and managed to perform their tasks. Others got help from their teammates.

Question 7: Was the time allocated to PBL appropriate?

This question refers to the matter of time management. Time management is crucial for one's personal life and career success. If students can learn how to manage their time well, they are able to set up their priorities, make the best choice at the right time in their lives. This six-week PBL intensive speaking course gave them a great experience to work with deadline. They had to learn how to manage their time effectively to meet the deadline. 74% of students found the time allocation appropriate. In fact, it was an extensive speaking course so both the teacher and students had time enough to complete their tasks. It is worth noting that PBL is quite time-consuming and inappropriate for English classes which are based on fixed textbooks within allocated time frame. Students need a sufficient amount of time to engage and perform their task carefully.

Question 8: Were there sufficient necessary learning resources?

In Step 4, the instructor recommended to the students some websites where they could collect data and 75% of respondents felt that they had access to adequate information, while only 25% of respondents had the impression that their access to the information was inadequate. The interviews held with the students have revealed that there were tremendous amounts of English information

in relation with the projects on the Internet and they had to scan it and choose the right piece for them. It helped them how to read and collect their necessary information in the era of information explosion and overload.

5. Conclusion

In this study, the PBL intensive speaking course was designed within the ten-step process framework offered by Alan and Stoller (2005) for the undergraduate engineering students at the university of Da Nang. In addition, their satisfaction with PBL was investigated through a questionnaire and interviews. Consequently, it can be said that students were positive about and well-motivated by PBL classes. They said that PBL classes helped them enhance their autonomy in learning, problem-solving and critical thinking as well as time management skill, communication skill, English speaking ability and self-confidence. Moreover, PBL created a good environment for them to learn and connected to the real world to prepare well for future job. It is believed that PBL should be encouraged to implement into schools and universities despite its own challenges for teachers and students. Therefore, further efforts in designing the PBL lectures, improving evaluation system and learning environments are necessary for the success of the PBL curriculum.

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